



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

## NOTICE OF ALLOWANCE AND FEE(S) DUE

22850

7590

07/07/2010

OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER

KWON, ASHLEY M

ART UNIT

PAPER NUMBER

1795

DATE MAILED: 07/07/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,453	01/13/2006	Toshio Takeshita	282057US6PCT	3508

TITLE OF INVENTION: BATTERY DEVICE AND ELECTRONIC APPARATUS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	10/07/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE** OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

## HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER:** Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to:** Mail **Mail Stop ISSUE FEE**  
**Commissioner for Patents**  
**P.O. Box 1450**  
**Alexandria, Virginia 22313-1450**  
**or Fax** **(571)-273-2855**

**INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

22850 7590 07/07/2010

**OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.**  
**1940 DUKE STREET**  
**ALEXANDRIA, VA 22314**

**Certificate of Mailing or Transmission**  
 I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2855, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/562,453 01/13/2006 Toshio Takeshita 282057US6PCT 3508

TITLE OF INVENTION: BATTERY DEVICE AND ELECTRONIC APPARATUS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	10/07/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
KWON, ASHLEY M	1795	429-179000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.  
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_  
 (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_  
 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee  
☐ Publication Fee (No small entity discount permitted)  
☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.  
☐ Payment by credit card. Form PTO-2038 is attached.  
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_  
 Typed or printed name \_\_\_\_\_ Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,453	01/13/2006	Toshio Takeshita	282057US6PCT	3508
22850	7590	07/07/2010	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314			KWON, ASHLEY M	
			ART UNIT	PAPER NUMBER

1795  
DATE MAILED: 07/07/2010

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 667 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 667 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

**Notice of Allowability****Application No.**

10/562,453

**Examiner**

ASHLEY KWON

**Applicant(s)**

TAKESHITA ET AL.

**Art Unit**

1795

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 4/30/2010.
2. ☒ The allowed claim(s) is/are 1-18, 20-27, 29, 30 and 34.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

**DETAILED ACTION**

**REASONS FOR ALLOWANCE**

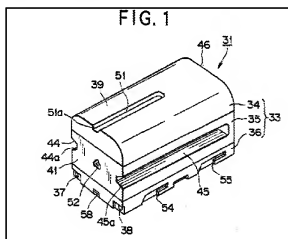
Claims 1-18, 20-27, 29, 30 and 34 are allowed.

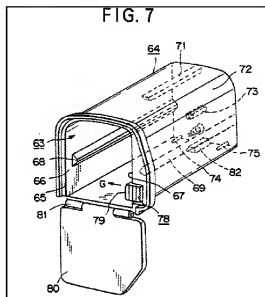
The following is an examiner's statement of reasons for allowance: None of the prior art of record, alone or in combination appears to teach, suggest, or render obvious the invention of at least claims 1, 8, 17 or 24.

Claim 1 teaches a battery apparatus having a case having a width, a thickness and a length; a battery cell disposed at the inside of said case; and a battery-side terminal disposed at a surface of said case and connected to a chargeable battery section, said battery apparatus comprising: three or more engaging pieces at portions on both sides in a width direction of said case which extend in said length direction while projecting outwardly in said width direction, said three or more engaging pieces configured to engage engaging claws of a battery mounting section of an electronic device and position said case at a position in a thickness direction of said case at said battery mounting section, said three or more engaging pieces disposed at spaced intervals in a length direction; and a convex portion projecting in the length direction from an end surface of the case and extending in the width direction along the end surface of the case, the convex portion disposed at a distance in the thickness direction from the battery-side terminal, the convex portion being located on a same end surface of the case as the battery-side terminal and extending in the width direction of the case a distance greater than a distance that the battery-side terminal extends in the width direction of case, and the convex portion projecting in the length direction away from an

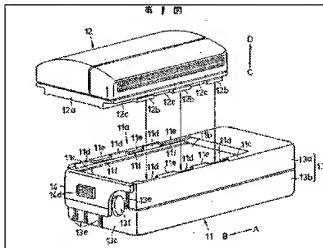
outermost end surface of the case a distance greater than a distance any other portion of the battery apparatus extends in the length direction.

The closest prior art, US 5,626,979 (hereinafter "Mitsui"), teaches a battery apparatus (battery pack, 31) having a case (housing unit, 33) having a width, a thickness and a length; a battery cell (rechargeable cell, 1) disposed at the inside of said case; and a battery side terminal (electrode terminal, 37, 38) disposed at a surface of said case and connected to a chargeable battery section (battery loading section, 63; see fig. 7), said battery apparatus comprising: engaging pieces (engaging grooves, 54,55) at portions on both sides in a width direction of said case which extend in said length direction while projecting outwardly in said width direction, said engaging pieces configured to engage engaging claws (engagement pieces; see col. 10, lines 4-7) of a battery mounting section of an electronic device and position said case at a position in a thickness direction of said case at said battery mounting section, said engaging pieces disposed at spaced intervals in a length direction (see fig. 1).





Mitsui fails to teach **three or more** engaging pieces at portions on both sides in a width direction of said case. However, H1-155654 (hereinafter "Victor") teaches a battery pack mounting structure in which the bottom portion of a battery pack has a plurality of engagement protrusions (12b) protruding on either side (see pg. 6 of provided translation "Battery Pack Mounting Device"; see fig. 1). Therefore it would have been obvious to a person of ordinary skill in the art to use three engaging pieces instead of two.



However, Mitsui in view of Victor fails to teach a convex portion projecting in the length direction from an end surface of the case and extending in the width direction along the end surface of the case, the convex portion disposed at a distance in the thickness direction from the battery-side terminal, and the convex portion being located on a same end surface of the case as the battery-side terminal and extending in the width direction of the case a distance greater than the battery-side terminal extends in the width direction of case, and the convex portion projecting in the length direction away from an outermost end surface of the case a distance greater than a distance any other portion of the battery apparatus extends in the length direction.

None of the other prior art pieces of record teach, suggest, or render obvious the battery apparatus as claimed in claim 1.

Regarding claim 8, Mitsui teaches an electronic device having a battery mounting section (battery loading section, 63; see fig. 7) on which a battery apparatus is attached, wherein: said battery apparatus includes a case having a width, a thickness and a length; a battery cell (rechargeable cell, 1) housed in the inside of said case; a bottom



surface (terminal mounting plate, 36; see fig. 5) positioned at one side in a direction of said thickness of said case; and a battery-side terminal (electrode terminal 37, 38) disposed at a surface of said case and electrically connected to said battery cell, engaging pieces (engaging grooves, 54, 55) extending in a direction of said length while projecting outwardly in a direction of said width are disposed at regular intervals in said length direction at portions on both sides in said width direction of the case.

Mitsui fails to teach **three or more** engaging pieces at portions on both sides in a width direction of said case.

However, Victor teaches a battery pack mounting structure in which the bottom portion of a battery pack has a plurality of engagement protrusions (12b) protruding on either side (see pg. 6 of provided translation "Battery Pack Mounting Device"; see fig. 1). Therefore it would have been obvious to a person of ordinary skill in the art to use three engaging pieces instead of two.

However, Mitsui in view of Victor fails to teach a convex portion projecting in the length direction from an end surface of the case and extending in the width direction along the end surface of the case, the convex portion disposed at a distance in the thickness direction from the battery-side terminal, and the convex portion being located on a same end surface of the case as the battery-side terminal and extending in the width direction of the case a distance greater than the battery-side terminal extends in the width direction of case, and the convex portion projecting in the length direction away from an outermost end surface of the case a distance greater than a distance any other portion of the battery apparatus extends in the length direction.

None of the other prior art pieces of record teach, suggest, or render obvious the electronic device claimed in claim 8.

Regarding claim 17, as argued above for claim 1, Mitsui in view of Victor discloses a battery apparatus having a case having a width, a thickness and a length; a battery cell disposed at the inside of said case; and a battery-side terminal disposed at a surface of said case and connected to a chargeable battery section, said battery apparatus comprising: three or more engaging pieces at portions on both sides in a width direction of said case which extend in said length direction while projecting outwardly in said width direction, said three or more engaging pieces configured to engage claws of a battery mounting section and position said case at a position in a thickness direction of said case at said battery mounting section, said three or more engaging pieces disposed at spaced intervals in a length direction.

However, Mitsui in view of Victor fails to disclose wherein a cutout portion is formed in an end of a bottom portion of the case, the cutout portion configured to receive a locking device of the battery mounting section; and a convex portion projecting in the length direction from an end surface of the case and extending in the width direction along the end surface of the case, the convex portion disposed in a distance in the thickness direction from the battery-side terminal, the convex portion being located on a same end surface of the case as the battery-side terminal and extending in the width direction of the case a distance greater than a distance that the battery-side terminal extends in the width direction of case, and the convex portion projecting in the length direction away from an outermost end surface of the case a

distance greater than a distance any other portion of the battery apparatus extends in the length direction.

None of the other prior art pieces of record teach, suggest, or render obvious the battery apparatus claimed in claim 17.

Regarding claim 24, Mitsui in view Victor teaches a battery apparatus having a case having a width, a thickness and a length; a battery cell disposed at the inside of said case; and a battery-side terminal disposed at a surface of said case and connected to said chargeable battery section, said battery apparatus comprising: three or more engaging pieces at portions on both sides in a width direction of said case which extend in said length direction while projecting outwardly in said width direction, said three or more engaging pieces configured to engage claws of said battery mounting section and position said case at a position in a thickness direction of said case at said battery mounting section, said three or more engaging pieces disposed at spaced intervals in a length direction.

However, Mitsui in view of Victor fails to disclose wherein a bottom portion of the case includes a recess portion, the recess portion including a first convex portion; and a second convex portion projecting in the length direction from an end surface of the case and extending in the width direction along the end surface of the case, the second convex portion disposed in a distance in the thickness direction from the battery-side terminal, and the second convex portion being located on a same end surface of the case as the battery side terminal and extending in the width direction of the case a distance greater than the battery-side terminal extends in the width direction of case,

the second convex portion projecting in the length direction away from the end surface of the case a distance greater than a distance the battery-side terminal extends in the length direction away from the end surface of the case, the second convex portion projecting in the length direction away from an outermost end surface of the case a distance greater than a distance any other portion of the battery apparatus extends in the length direction.

None of the other prior art pieces of record teach, suggest, or render obvious the battery apparatus claimed in claim 24.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ASHLEY KWON whose telephone number is (571)270-7865. The examiner can normally be reached on Monday to Thursday 7:30 - 6 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ASHLEY KWON/  
Examiner, Art Unit 1795

/PATRICK RYAN/  
Supervisory Patent Examiner, Art Unit 1795